

SECTION 15440

PLUMBING FIXTURES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Definitions:
 - 1. Aerator: Device that mixes room air with faucet's water stream.
 - 2. Ledge-mounted faucet: Faucet with body mounted on top of faucet ledge and covered by faucet housing or single escutcheon.
 - 3. Bottom-mounted faucet: Faucet with body mounted beneath faucet ledge; each penetration is covered by single escutcheon.

1.2 QUALITY ASSURANCE

- A. Manual-valve standards: See Section 15100 (for valves labeled "V-13, -14, -24, -25, -28, -29, -33, -35, -62").
- B. Accessibility:
 - 1. Manufacturing standards:
 - a. Americans with Disabilities Act (Public Law 101-336).
 - b. ANSI-A117.1, current edition.
 - 2. Installing standards:
 - a. Americans with Disabilities Act (Public Law 101-336).
 - b. ANSI-A117.1, current edition.
 - c. Local authorities.
 - d. State authorities.

1.3 SUBMITTALS (SEE DIVISION 1)

- A. Product data: Assemble submittals by mark number. Include sufficient information to verify compliance with descriptions. Where model numbers differ from descriptions, submit to meet description requirements.
 - 1. Hose bibbs.
 - 2. Lavatories.
 - 3. Sinks.
 - 4. Urinals.
 - 5. Wall hydrants.
 - 6. Water closets.
 - 7. Yard hydrants.
- B. Contract closeout information:
 - 1. Operating and maintenance data.

PART 2 - PRODUCTS

2.1 MATERIALS - GENERAL

- A. Acceptable manufacturers:
 - 1. Faucets:
 - a. Base:
 - 1) Manufacturer of fixture unless otherwise noted.
 - b. Optional:
 - 1) American Standard Plumbing.

- 2) Chicago Faucet.
 - 3) Crane Plumbing.
 - 4) Kohler.
 - 5) T&S Brass & Bronze Works.
2. Faucets (Sensor operated):
 - a. Base:
 - 1) Sloan Valve.
 - b. Optional:
 - 1) Coyne & Delany.
 - 2) Hydrotek.
3. Fixtures (Molded stone):
 - a. Base:
 - 1) Fiat.
 - b. Optional:
 - 1) Creative Industries Terrazzo Products.
 - 2) Standard Elsemere.
 - 3) Stern and Williams.
 - 4) Swan.
 - 5) Mustee & Sons, EL.
4. Fixtures (Stainless steel):
 - a. Base:
 - 1) Elkay Manufacturing.
 - b. Optional:
 - 1) Just Manufacturing.
 - 2) Brasscraft.
5. Fixtures (Vitreous china):
 - a. Base:
 - 1) American Standard Plumbing.
 - b. Optional:
 - 1) Crane Plumbing.
 - 2) Kohler.
6. Fixture carriers:
 - a. Base:
 - 1) Wade.
 - b. Optional:
 - 1) Ancon.
 - 2) Jonespec.
 - 3) Josam.
 - 4) J R Smith.
 - 5) Zurn Industries.
7. Flow control devices:
 - a. Base:
 - 1) Same as installed faucet or shower head.
 - b. Optional:
 - 1) American Standard Plumbing.
 - 2) Chicago Faucet.
 - 3) Crane Plumbing.
 - 4) Coyne & Delany.
 - 5) Delta Faucet.
 - 6) Eljer Plumbingware.
 - 7) Hydrotek.
 - 8) Kohler.
 - 9) Omni.
 - 10) Sloan Valve.
 - 11) T&S Brass & Bronze Works.
8. Flushometer valves:

- a. Base:
 - 1) Sloan Valve.
 - b. Optional:
 - 1) Coyne & Delany.
 - 2) Zurn Industries.
 - 9. Hose bibbs:
 - a. Base:
 - 1) Chicago Faucet.
 - b. Optional:
 - 1) Acorn Engineering.
 - 2) Cambridge Brass.
 - 3) Crane Plumbing.
 - 4) Croker West.
 - 5) Sloan Valve.
 - 6) Speakman.
 - 7) T&S Brass & Bronze Works.
 - 8) Woodford Manufacturing.
 - 10. Trim:
 - a. Base:
 - 1) Manufacturer of fixture.
 - b. Optional:
 - 1) American Standard Plumbing.
 - 2) Brass-Craft Manufacturing.
 - 3) Chicago Faucet.
 - 4) Crane Plumbing.
 - 5) Elkay Manufacturing.
 - 6) Just Manufacturing.
 - 7) Kohler.
 - 8) McGuire Manufacturing.
 - 9) T&S Brass & Bronze Works.
 - 11. Wall and yard hydrants:
 - a. Base:
 - 1) Wade Division/Tyler Pipe.
 - b. Optional:
 - 1) Ancon Inc.
 - 2) JONESPEC Plumbing Products.
 - 3) Josam Company.
 - 4) Jay R. Smith Manufacturing Co.
 - 5) Woodford Manufacturing.
 - 6) Zurn Industries, Inc.
 - 12. Water closet seats:
 - a. Base:
 - 1) Manufacturer of fixtures.
 - b. Optional:
 - 1) Beneke.
 - 2) Centoco.
 - 3) Olsonite.
 - 4) Sperzel.
 - 13. Other manufacturers desiring approval comply with Document 00440.
- B. Construct or equip fixtures with air gap or anti-siphon devices to prevent siphoning non-potable water into potable water supply system.
- C. Piping exposed in finished areas (including fittings and trim): See Section 15410.
- D. Dimensions:
- 1. Dimensions are nominal.

2. Multiple dimensions:
 - a. First dimension: Side-to-side.
 - b. Second dimension: Front-to-back.
 - c. Third dimension: Top-to-bottom.
- E. Manufacture accessible fixture assemblies to meet requirements of accessibility manufacturing standards (see Quality Assurance article in Part 1 of this section).
- F. Faucets, general (Following general conditions apply unless detailed otherwise in specific descriptions):
 1. Renewable cartridges with integral seats (or renewable seats and stems).
 2. Materials: Brass, bronze, copper, stainless steel, ceramic. (Plastic components are not acceptable.)
 3. Finish: Polished chrome.
 4. Gooseneck spouts: Discharge at least 5 IN above rim of fixture.
- G. Flow control devices, general:
 1. Provide flow control devices with indicated flow rates on listed fixtures:
 - a. Lavatories: 0.5 GPM.
 - b. Sinks: 2.0 GPM.
 - c. Showers: 2.5 GPM.
 - d. 3/4 IN hose threads: 2.5 GPM.
 2. Accomplish controlled flow without aeration of water stream. Aerators are not acceptable unless specifically identified in the faucet description.
 3. Material: Brass.
 4. Finish: Chrome.
 5. Flow control devices shall be disinfectable.
- H. Lavatory fixtures, general (Following general conditions apply unless detailed otherwise in specific descriptions):
 1. Vitreous-china fixtures:
 - a. Color: White.
 - b. Overflows: Integral.
 2. Provide integral faucet ledge with holes:
 - a. Coordinate hole quantities, locations, and centerings with faucet types indicated in fixture descriptions.
 - b. Provide exact number of holes necessary. Use of faucet hole covers is not acceptable.
- I. P-traps and continuous wastes, semi-cast:
 1. P-trap, semi-cast:
 - a. 1-1/4 or 1-1/2 IN NPS cast-brass return bend with clean out.
 - b. 17 GA x 1-1/4 or 1-1/2 IN OD copper tube tailpiece.
 - c. Nuts: Cast brass.
- J. Sink fixtures, general (Following general conditions apply unless detailed otherwise in specific descriptions):
 1. Stainless steel:
 - a. Finish: Soft satin.
 - b. Type: 302 (18-8) or 304 (18-8).
 - c. Sound deadening that covers complete undersides of each bowl.
 - d. Thickness:
 - 1) Sink depth less than or equal to 10 IN: 18 GA.
 2. Enameled cast-iron:
 - a. Color: White.
 3. Counter-top sinks: Self-rimming.
 4. Provide integral faucet ledge with holes:
 - a. Coordinate hole quantities, locations, and centerings with the following:
 - 1) Faucets and trim indicated in fixture descriptions.
 - 2) Hot-water dispensers.

- 3) High-purity water faucets.
- b. Provide exact number of holes necessary. Use of faucet hole covers is not acceptable.

2.2 FIXTURE CARRIERS

- A. Fixture carriers:
 - 1. Application:
 - a. This paragraph describes carriers for wall-hung valves and wall-hung fixtures except water closets. See Water Closet article for closet carriers.
 - 2. Carriers consist of uprights, floor anchors, and fixture supports:
 - a. Fixture-support types are hanger-plate.
 - b. Include associated hardware.
 - 3. Materials:
 - a. Coated cast iron.
 - b. Steel.
 - 4. Weight of construction: Institutional.
 - 5. Uprights: Rectangular structural steel.
 - 6. Floor anchors:
 - a. Non-adjustable cast-iron floor anchors bolted to uprights; or steel-plate floor anchors integrally welded to uprights.
 - b. 4-hole anchoring to floor.
 - 7. Hanger-plate fixture supports:
 - a. Bolted attachment to uprights.
 - b. Drilled/slotted to match fixture.
 - c. Hardware for attaching fixture.
 - d. Provide in adequate size and quantity to anchor fixture at every anchoring point on the fixture.
 - 8. Match lengths, mounting locations, and sizes to fixture requirements.

2.3 HOSE BIBBS

- A. Hose bibb, general (Following general conditions apply unless detailed otherwise in specific descriptions):
 - 1. Material: Brass.
 - 2. Finish: As indicated.
- B. HB-1, Rough brass hose bibb:
 - 1. Fixture:
 - a. Single handle. 3/4 IN flanged inlet. Vandal-resistant, self-draining vacuum breaker. 3/4 IN male hose outlet.
 - 1) Chicago Faucet 7T.

2.4 LAVATORIES

- A. See Article 2.01 MATERIALS - GENERAL
- B. L-1, Lavatory, oval:
 - 1. Fixture (Base Bid):
 - a. 21 x 17 IN oval, counter-top, vitreous-china.
 - 1) American Standard Plumbing Aqualyn 0475.020.
 - 2. Fixture (Add Alternate):
 - a. Integral with counter top provided by others.
 - 3. Faucet:
 - a. Electric, sensor-operated, ledge-mounted, 8 IN spread, integral spout, faucet-mounted sensor, aerator. Hard wired transformer.
 - 1) Sloan ETF-66.
 - 4. Trim:
 - a. Supplies: Chrome, 3/8 IN OD, soft-copper tube, loose-key stops, escutcheons.
 - 1) Model.

- b. Grid drain: Chrome 1-1/4 IN cast-brass with 17 GA x 1-1/4 IN OD copper-tube tailpiece.
 - 1) Model.
 - c. P-trap: Chrome or satin, 1-1/4 IN (or 1-1/2 IN) semi-cast with cleanout, with 17 GA x 1-1/2 IN OD copper-tube trap arm.
 - 1) Model.
 - C. L-2, Lavatory, oval, accessible:
 - 1. Fixture (Base Bid):
 - a. 21 x 17 IN oval, counter-top, vitreous-china.
 - 1) American Standard Plumbing Aqualyn 0475.020.
 - 2. Fixture (Add Alternate):
 - a. Integral with counter top provided by others.
 - 3. Faucet:
 - a. Electric, sensor-operated, ledge-mounted, 8 IN spread, 5 IN diameter fixed gooseneck, faucet-mounted sensor, hard wired transformer.
 - 1) Sloan ETF-77.
 - 4. Trim:
 - a. Supplies: Chrome, 3/8 IN OD, soft-copper tube, loose-key stops, escutcheons.
 - 1) Model.
 - b. Grid drain: Chrome 1-1/4 IN cast-brass with 17 GA x 1-1/4 IN OD copper-tube tailpiece.
 - 1) Model.
 - c. P-trap: Chrome or satin, 1-1/4 IN (or 1-1/2 IN) semi-cast with cleanout, with 17 GA x 1-1/2 IN OD copper-tube trap arm.
 - 1) Model.

2.5 SINKS

- A. See Article 2.01 MATERIALS - GENERAL
- B. S-1, Single bowl:
 - 1. Fixture (Base Bid):
 - a. 25 x 21 x 8 IN, counter-top, stainless-steel, single-bowl, 3-1/2 IN outlet.
 - 1) Elkay Lustertone LR-2521.
 - 2. Fixture (Add Alternate):
 - a. Integral with counter top provided by others.
 - 3. Faucet:
 - a. Bottom-mounted, 8 IN spread, two 4 IN wristblades, 5 IN diameter fixed gooseneck.
 - 1) American Standard Plumbing Heritage 6832.000.
 - 4. Trim:
 - a. Supplies: Chrome, 3/8 IN OD, soft-copper tube, loose-key stops, escutcheons.
 - b. Chrome grid drain for 3-1/2 IN outlet with 17 GA x 1-1/2 IN OD copper-tube tailpiece.
 - c. P-trap: Chrome or satin, 1-1/2 IN) semi-cast with cleanout, with 17 GA x 1-1/2 IN OD copper-tube trap arm.

2.6 SINKS, MOP

- A. See Article 2.01 MATERIALS - GENERAL
- B. MS-1:
 - 1. Fixture:
 - a. One-piece, molded-stone, floor-mounted basin, 3 IN brass or stainless-steel drain body, removable dome strainer, vinyl or stainless-steel bumper guards on sides not adjacent to wall. Scale size and shape off Architectural drawings.
 - 1) Fiat MSB series.
 - 2. Faucet:

- a. Wall-mounted, combination service-sink fitting, two handles, fixed spout, integral vacuum breaker, 3/4 IN hose threads, adjustable wall brace, pail hook, flanged female adjustable arms with integral stops.
 - 1) Chicago Faucet 897.

2.7 SINKS, SERVICE

- A. See Article 2.01 MATERIALS - GENERAL
- B. SS-1:
 - 1. Fixture:
 - a. 24 x 20 IN enameled cast-iron, backsplash with faucet holes, rim guards, 3 IN outlet, 3 IN trap standard with inlet strainer and clean out.
 - 1) Kohler Bannon K-6716.
 - 2. Faucet:
 - a. Rough-chrome, backsplash-mounted, combination service-sink fitting, two handles, short fixed spout, integral vacuum breaker, 3/4 IN hose threads, pail hook, flanged inlets, integral stops.
 - 1) Kohler K-8905.
 - 3. Trim:
 - a. 3 IN chrome grid strainer and trap standard with adjustable-height floor support.
 - 1) Kohler K-6673.

2.8 SPARE PARTS

- A. Provide two of each type of renewable cartridge, stem, and seat.

2.9 URINALS

- A. See Article 2.01 MATERIALS - GENERAL
- B. Urinal fixtures, general (Following general conditions apply unless detailed otherwise in specific descriptions):
 - 1. Fixture material: White vitreous china.
 - 2. Spud material: Brass.
 - 3. Floor-mounted fixtures: Provide bolt caps with retainers for exposed bolts.
 - 4. Nominal flush volume: 1.0 GPF.
- C. UR-1:
 - 1. Fixture:
 - a. Wall-hung, blowout, 3/4 IN top spud, 2 IN outlet, privacy shields, integral trap.
 - 1) American Standard Plumbing Twinbrook 6561.017.
 - b. Fixture carrier: Hanger-plate type.
 - 1) Model.
 - 2. Flushometer valve:
 - a. Chrome finished brass, 12 IN tall, battery-powered, sensor-operated diaphragm type with battery back-up, manual override feature, integral vacuum breaker, flush connection and spud coupling for 3/4 IN top spud, 1 IN screwdriver back-check angle stop. Match flush volume to fixture requirements.
 - 1) Sloan Optima Plus CF8186-1.
- D. UR-2, Accessible:
 - 1. Fixture:
 - a. Wall-hung, blowout, 3/4 IN top spud, 50 mm 2 IN outlet, privacy shields, integral trap.
 - 1) American Standard Plumbing Twinbrook 6561.017.
 - b. Fixture carrier: Hanger-plate type.
 - 1) Model.
 - 2. Flushometer valve:

- a. Chrome finished brass, 12 IN tall, battery-powered, sensor-operated diaphragm type with battery back-up, manual override feature, integral vacuum breaker, flush connection and spud coupling for 3/4 IN top spud, 1 IN screwdriver back-check angle stop. Match flush volume to fixture requirements.
 - 1) Sloan Optima Plus CF8186-1.

2.10 WALL HYDRANTS

- A. Wall hydrants, general (Following general conditions apply unless detailed otherwise in specific descriptions):
 1. Materials: Type M copper, bronze, cast brass.
 2. Finish of exposed parts: Satin nickel.
 3. Integral, self-draining vacuum breakers.
 4. Key operated volume control/stop.
 5. Automatic draining, non-freezing.
 6. Nylon seats.
 7. Modular face/box.
 8. Renewable cartridges with integral seats (or renewable seats and stems).
 9. 3/4 IN inlet.
 10. 3/4 IN hose-thread outlet.
- B. WH-1:
 1. Fixture:
 - a. Single temperature, exposed face.
 - 1) Wade W-8600.

2.11 WATER CLOSETS

- A. See Article 2.01 MATERIALS - GENERAL
- B. Fixture carriers for water closets:
 1. Carriers consist of drainage fitting, faceplate, foot supports, closet coupling, and associated hardware.
 2. Style:
 - a. Adjustable:
 - 1) Capable of being installed to accept accessible and standard-height closets at each carrier by adjusting only the face-plate position.
 - b. Floor anchored.
 3. Material: Coated cast iron.
 4. Weight of construction: Institutional.
 5. Extension:
 - a. When distance between carrier and closet exceeds manufacturer's recommended distance, provide longer closet coupling, longer fixture studs, and additional foot supports.
 6. Provide anchor foot assembly for single carriers.
 7. Closet couplings: Cast iron.
 8. Hardware:
 - a. Provide hardware to assemble carrier and to mount fixture to carrier.
 - b. Match hardware to fixture requirements.
 9. Finish on exposed parts: Chrome unless indicated otherwise in fixture description.
- C. Water-closet fixtures, general (Following general conditions apply unless detailed otherwise in specific descriptions):
 1. Wall-hung closets: Provide fixture carriers.
 2. Bowls: Elongated.
 3. Color: White.
 4. Fixture material: Vitreous china.
 5. Spud material: Brass.
 6. Spud size: 1-1/2 IN.

7. Nominal flush volume: 1.6 GPF.
- D. Water-closet seats, general:
1. Solid plastic.
 2. Color: White.
 3. Resistant to scratching, stains, chemicals, and cleaning agents.
 4. Elongated-bowl style.
 5. Stainless-steel hinge pins, bolts, and hardware.
 6. Check hinges.
 7. Integrally molded bumpers.
- E. WC-1, Public wall-hung:
1. Fixture:
 - a. Wall-hung, siphon jet, top spud.
 - 1) American Standard Plumbing AFWall 2257.103.
 2. Flushometer valve:
 - a. Chrome finished brass, 24 IN tall, battery-powered, sensor-operated diaphragm type with battery back-up, manual override feature, integral vacuum breaker, flush connection and spud coupling for 1-1/2 IN top spud, 1 IN screwdriver back-check angle stop. Match flush volume to fixture requirements.
 - 1) Sloan Optima Plus CF8111.
 3. Seat:
 - a. Open-front seat without cover.
- F. WC-2, Public wall-hung, accessible:
1. Fixture:
 - a. Wall-hung, siphon jet, top spud.
 - 1) American Standard Plumbing AFWall 2257.103.
 2. Flushometer valve:
 - a. Chrome finished brass, 12 IN tall, battery-powered, sensor-operated diaphragm type with battery back-up, manual override feature, integral vacuum breaker, flush connection and spud coupling for 1-1/2 IN top spud, 1 IN screwdriver back-check angle stop. Match flush volume to fixture requirements.
 - 1) Sloan Optima Plus CF8111
 3. Seat:
 - a. Open-front seat without cover.

2.12 YARD HYDRANTS

- A. Yard hydrants, general (Following general conditions apply unless detailed otherwise in specific descriptions):
1. Materials: Bronze, brass.
 2. Finish of exposed brass or bronze parts: Satin nickel.
 3. Integral, self-draining vacuum breakers.
 4. Key operated volume control/stop.
 5. Automatic draining, non-freezing.
 6. Nylon seats.
 7. Renewable cartridges with integral seats (or renewable seats and stems).
- B. YH-1:
1. Fixture (Add Alternate):
 - a. 12 x 12 x 12 IN coated cast-iron ground box with hinged, scoriated cover. Inlet: 3/4 IN. Outlet: 3/4 IN hose thread.
 - 1) Wade W-8602.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install fixtures in first class manner with proper connections to water, drainage and vent systems.
- B. Install fixtures at manufacturer's suggested height unless noted otherwise.
- C. Install fixtures in accordance with manufacturers' instructions.
- D. See that proper grounds are set to form a secure base and an absolutely rigid setting for each fixture.
- E. Provide guards and boxing as may be required to protect fixtures against damage from operations of other trades.
- F. Where pipes penetrate walls, floors, or ceilings, conceal penetrations with chrome escutcheons or stainless-steel plates.
- G. Connect exposed traps and supply pipes for fixtures and equipment to rough piping systems at wall, unless otherwise specified.
- H. Where plumbing fixtures abut to walls, floors, and countertops, seal with silicone-type sealant: See Section 07900.
- I. On flushometer valves with pipe supports, mount pipe support to wall two-thirds of flush-valve height above fixture spud.

3.2 FIXTURE CARRIER LEVELING

- A. Level fixture carriers by shimming floor anchors with steel washers of varying thicknesses.

3.3 ACCESSIBLE FIXTURES

- A. Install accessible fixture assemblies to meet requirements of accessibility installing standards (see Quality Assurance article in Part 1 of this section).

3.4 WATER-CLOSET FIXTURE CARRIERS

- A. Install each carrier to accept accessible and standard-height water-closet installations so that future change from one height to the other can be accomplished by adjusting only the position of the face plate.

3.5 HYDRANTS

- A. Yard hydrants: Provide crushed rock around drain hole to allow drainage.

3.6 ADJUST AND CLEAN

- A. Valves with adjustable temperature-limit stop: Adjust stop to deliver maximum 110 degF.
- B. Remove dirt from fixtures, fittings and traps.
- C. Secure escutcheons against wall.

END OF SECTION